

## CLAIMS

### We claim:

1. An end-side anastomosis system including a fitting comprising:  
a base for attachment to a graft, said base be configured to form a seal with an opening in a host vessel wall;  
a leading petal having a cross-section with a radius of curvature approximating a radius of curvature of the host vessel, said leading petal being configured to dilate the host vessel wall opening while advancing said fitting through the opening; and  
a rear petal, said rear petal being deflectable to be advanced through the host vessel opening.
2. The system of claim 1, wherein said rear petal of said fitting is deflectable toward said base.
3. The system of claim 1, wherein said rear petal has a length such that said fitting can be advanced through the host vessel opening without said leading petal or said base deforming a posterior surface of the host vessel upon introduction of said fitting into the host vessel.
4. The system of claim 1, wherein said fitting defines proximal and distal openings configured to receive a guidewire.
5. The system of claim 1, further including a guidewire.

6. The system of claim 1, wherein said base of said fitting includes a locking mechanism to secure a support device.

7. The system of claim 1, wherein said locking device is selected from a group consisting of tabs and threads.

8. The system of claim 1, further including a support device configured for attachment to said base of said fitting.

9. The system of claim 8, wherein said support device includes a funneled section to relieve stress on the graft.

10. The system of claim 8, wherein said support device has a curved proximal end.

11. The system of claim 8, wherein said support device includes a curved distal end having a curvature generally matching that of the host vessel.

12. The system of claim 8, wherein said support device comprises a slotted member having edges.

13. The system of claim 11, wherein said support device includes a latching mechanism to lock said edges together.

14. The system of claim 11, further including a clip to secure said support device to said base of said fitting.

15. The system of claim 11, wherein said support device includes a flared distal end.

16. An end-side anastomosis fitting comprising:  
a base and a plurality of petals extending from said base, said petals adapted to be advanced into a host vessel by rotating said base.

17. The fitting of claim 16, wherein said petals are discrete, curved members.

18. The fitting of claim 16, wherein said petals are joined from between a leading petal to a trailing petal by an outer connecting link.

19. An anastomosis deployment system comprising a deployment sheath having at least two portions adapted to form a splittable lumen, said lumen being configured to receive at least an anastomosis fitting.

20. The system of claim 19, wherein said deployment sheath includes a portion defining a second lumen.